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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/069,592	07/16/2002	Kenichi Ajiki	2002_0229A	3836
513	7590	07/29/2004	EXAMINER	
WENDEROTH, LIND & PONACK, L.L.P.			MAYO III, WILLIAM H	
2033 K STREET N. W.			ART UNIT	
SUITE 800			PAPER NUMBER	
WASHINGTON, DC 20006-1021			2831	

DATE MAILED: 07/29/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/069,592

Applicant(s)

AJIKI, KENICHI

Examiner

William H. Mayo III

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 June 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 21-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 21-35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>June 1, 2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement filed June 1, 2004 has been submitted for consideration by the Office. It has been placed in the application file and the information referred to therein has been considered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 12-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Own Admission of Prior Art (herein referred to as AOAPA) in view of Ferlier et al (Pat Num 4,808,966). AOAPA discloses a conventional insulated wire (Figs 5-7) for usage with electronic application devices (see applicant's description of prior art on pages 1-3). Specifically, with respect to claim 12, AOAPA discloses an enameled wire (Fig 6) comprising a core wire (1b) made of copper (page 1, paragraph 5 of applicant's specification), an insulating coated layer (1c) covering and contacting the core wire (1b), a melting layer (1d) covering the insulating coated layer (1c), wherein the insulating coated layer (1c) is formed of a material that absorbs a laser beam (page 2, paragraph 8 & 10), wherein the laser beam melts and strips away the insulating layer (1c) so that

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the core wire (1b) can be soldered (page 2, paragraphs 6-8). With respect to claim 16, AOAPA discloses that the melting layer (1d) softens or melts by heat (see page 2, paragraph 6). With respect to claim 17, AOAPA discloses that the insulated coated layer (1c) is melted by a laser beam such as CO₂ laser (Page 2, paragraphs 6-8). soldering portion of the terminal (Fig 5). With respect to claim 21, AOAPA discloses a method of soldering a enameled wire (1) comprising the steps of irradiating a laser beam to an enameled wire (1) comprising a core wire (1b) made of copper (page 1, paragraph 5 of applicant's specification), an insulating layer (1c) covering the core wire (1b), wherein a laser beam melts and strips away the insulating layer (1c), a melting layer (1d) covering the insulating layer (1c), wherein the insulating layer (1c) is formed of a material that absorbs a laser beam (page 2, paragraph 8 & 10), stripping at least a part of the insulating coating (1c) by a laser beam (page 2 paragraphs 10-11) and soldering the core wire (1b) to a soldering portion (4) by a laser beam (pages 2-3, paragraph 12). With respect to claim 22, AOAPA discloses a method wherein the soldering portion has the same shape of the laser beam spot (Fig 7). With respect to claim 23, AOAPA discloses a method wherein the soldering portion has the same shape of the laser beam (Fig 7). With respect to claim 24, AOAPA discloses a method wherein a step of providing an empty space underneath the soldering portion of a soldering land (Fig 7). With respect to claim 25, AOAPA discloses a method comprising irradiating a laser beam to an enameled wire (1) that includes a core wire (1b) made of copper (page 1, paragraph 5 of applicant's specification), an insulating layer (1c), a melting layer (1d). With respect to claim 26, AOAPA discloses a method comprising

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irradiating a laser beam to an enameled wire (1) that includes a core wire (1b) made of copper (page 1, paragraph 5 of applicant's specification), an insulating layer (1c), a melting layer (1d). With respect to claim 27, AOAPA discloses a method of irradiating a laser beam to an enameled wire (1) that includes a core wire (1b) made of copper (page 1, paragraph 5 of applicant's specification), an insulating layer (1c), a melting layer (1d). With respect to claim 28, AOAPA discloses a method of irradiating a laser beam to an enameled wire (1) that includes a core wire (1b) made of copper (page 1, paragraph 5 of applicant's specification), an insulating layer (1c), a melting layer (1d). With respect to claim 29, AOAPA discloses a method of irradiating a laser beam to an enameled wire (1) that includes a core wire (1b) made of copper (page 1, paragraph 5 of applicant's specification), an insulating layer (1c), a melting layer (1d). With respect to claim 30, AOAPA discloses an electro-acoustic transducer (Fig 5) comprising a plate (3) having a center pole (2), a coil (1a) disposed on the plate (3) wherein the coil (1a) is formed of an enameled wire (Fig 6) comprising a core wire (1b) made of copper (page 1, paragraph 5 of applicant's specification), an insulating coated layer (1c) covering and contacting the core wire (1b) wherein the laser beam melts and strips away the insulating layer (1c) so that the core wire (1b) can be soldered (page 2, paragraphs 6-8), a melting layer (1d) covering the insulating coated layer (1c), wherein the insulating coated layer (1c) is formed of a material that absorbs a laser beam (page 2, paragraph 8 & 10), a terminal (4) for connection with the enamel wire (1) molded with a resin with at least a soldering portion exposed outside (page 1, paragraph 4), a magnet (5) fixed to the plate (3), a diaphragm (6) disposed above the magnet (5) with a space to the center pole (2) which

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has to have a magnetic material disposed, and a resin body (7) having an empty space in at least a part underneath the soldering portion of the terminal (Fig 5). With respect to claims 31-25, AOAPA discloses that the insulating coated layer (1c) is formed of a material that absorbs a laser beam (page 2, paragraph 8 & 10).

However, AOAPA doesn't necessarily disclose an insulating coated layer being for efficiently absorbing the laser beam (claims 12 & 21), nor the insulating coating layer being a colored resin (claims 13, 25, & 31), nor the insulating coating layer being colored with dye or pigment (claims 14, 26, & 32), nor the insulating coating layer being non-transparent to the laser beam (claims 15, 18, 27, & 33), nor the insulating coating layer being a color that has an absorption band corresponding to an oscillation wavelength of a laser used to generate the laser beam (claims 19, 28, & 34), nor the melting layer absorbing less of a laser beam than the insulating coated layer (claims 20, 29, & 35).

Ferlier teaches an enameled wire (Figs 1-3) capable of being marked by a laser. (Col 1, lines 4-5) in order to obtain the underlying layer (Col 1, lines 40-47). Specifically, With respect to claims 12-14, 25-26, & 31-32, Ferlier discloses that the insulated coated layer (20 & 21) comprises a colored resin, which is colored with a pigment (Cols 2 & 3, lines 23-30 & 50-55 respectively), that efficiently absorbs the laser beam (Col 4, lines 23-29). With respect to claim 15, Ferlier teaches that an enameled wire having a transparent outer layer (i.e. melting layer), which is transparent, is known in the art (Col 1, lines 18-25). With respect to claims 15, 18, 27, & 33, Ferlier discloses that the insulated coated layer (20 & 21) is non-transparent (i.e. black, Col 3, lines 50-57). With

respect to claims 19, 28, & 34, Ferlier discloses that the insulated coated layer (20 & 21) are color to have an absorption band corresponding to an oscillation wavelength of a laser used to generate the laser beam (Col 3, lines 1-17). With respect to claims 20, 29, & 35, Ferlier discloses that the insulating coated layer (20 & 21) is capable of absorbing more of the laser beam than the melting layer is to absorb (Col 4, lines 23-29).

With respect to claims 12-15, 25-29 and 31-34, it would have been obvious to one having ordinary skill in the art of cables at the time the invention was made to modify the enameled wire of AOAPA to comprise the colored insulating layer as taught by Ferlier because Ferlier teaches that such a configuration provides the capability to obtain the underlying layer (Col 1, lines 40-47) and makes it possible to obtain a high quality marking (Col 2, lines 8-11)

With respect to claim 15, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the melting layer of Ferlier to be made of transparent material, since it is well known in the art of enameled wires that transparent layers are commonly utilized in cables and since it has been held to be within general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Response to Arguments

4. Applicant's arguments filed June 1, 2004 have been fully considered but they are not persuasive. Specifically, the applicant argues the following:

- A) The combination of the AOAPA and the Ferlier reference is improper because the two references have different purposes and therefore there exist no motivation or suggestion to combine the two references.
- B) The combination of AOAPA and Ferlier would result in the destroying the AOAPA and therefore the combination would not result in the claimed invention.
- C) The molded body of AOAPA doesn't disclose the resin body having an empty space underneath at least a portion of the soldering portion and therefore the claimed invention of claim 30 is not taught or suggested with the combination of AOAPA and Ferlier.

With respect to arguments A & B, the examiner respectfully traverses. The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, AOAPA discloses an enameled wire (Fig 6) comprising a core wire (1b) made of copper (page 1, paragraph 5 of applicant's specification), an insulating coated layer (1c) covering and contacting the core wire (1b), a melting layer (1d) covering the insulating coated layer (1c), wherein the insulating coated layer (1c) is formed of a material that absorbs a laser beam (page 2, paragraph 8 & 10), wherein the laser beam melts and strips away the insulating layer

(1c) so that the core wire (1b) can be soldered (page 2, paragraphs 6-8), wherein the process of stripping the insulating layer and the melting layer results in wetting and sometimes breakage of the fine wire being soldered (see pages 1-3, under Background of the Invention). This results because the laser utilized to strip the layer is not completely absorbed and therefore oxidizes the conductor. Ferlier teaches an enameled wire (Figs 1-3) capable of being marked by a laser. (Col 1, lines 4-5) in order to obtain the underlying layer (Col 1, lines 40-47). While Ferlier is really concerned with soldering of the conductor, one must analyze the Ferlier reference for what it would have suggested to one of ordinary skill in the art. Specifically, it has been held that the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985). Clearly, Ferlier teaches that providing an insulating layer with color pigments, are known to provide the insulating layer with absorption characteristics. Specifically, Ferlier teaches under the Background of the Invention and the general specification, that based on the amount of absorption the designer expects the insulating layer to have, the top layer is completely destroyed, and the underneath layer absorbs the laser beam based on the fact that the insulation layer is pigmented. Based on the teaching of Ferlier, it would have been obvious to one having ordinary skill in the art to modify the conductor of AOAPA to have a pigmented layer, in order to absorb some of the laser, and thereby inherently prevent the possibility of oxidizing the conductor to be soldered. The applicant maintains that the combination of the

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references would destroy the conductor of AOAPA, however, it has been held that obviousness cannot be determined by whether two references can be incorporated. Specifically, the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). Based on the teaching of Ferlier, it would have been obvious to utilize a pigmented insulating layer that absorbs some of the laser, in order to prevent the problems associated with AOAPA's conductor as defined by the applicant in the Background of the Invention section. Therefore, the examiner respectfully submits that the rejection under 35 USC 103(a) is proper and just.

With respect to argument C, the examiner respectfully traverses. It appears that drawings of Figure 4 (applicant's invention) and Figure 7 as mere duplicates of each other. Specifically, the space 26a in Figure 4, is clearly depicted in Fig 7 (prior art drawing). It has been held that the drawings must be examined for what they show or appear to suggest to one of ordinary skill in the art. Specifically, it has been held that the drawings must be evaluated for what they reasonably disclose and suggest to one of ordinary skill in the art. *In re Aslanian*, 590 F. 2d 911, 200 USPQ 500 (CCPA 1979). In this case, Figure 7 appears to disclose a space as explained above, and therefore the examiner respectfully submits that the rejection of claim 30 is proper and just.

Conclusion

5. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Communication

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to William H. Mayo III whose telephone number is (571)-272-1978. The examiner can normally be reached on M-F 8:30am-6:00 pm (alternate Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Dean Reichard can be reached on (571) 272-2800 ext 31. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read 'William H. Mayo III', is written over a circular stamp.

WHM III
July 24, 2004

William H. Mayo III
Primary Examiner
Art Unit 2831